

## CONTENTS OF VOLUME 97

Vol. 97C, No. 1

### Mini-Review

**M. H. Depledge and P. S. Rainbow**

### General Papers

**T. Laasberg**

**T. Kitazawa, T. Hoshi and A. Chugun**

**T. Kitazawa, K. Kudo and M. Ishigami**

**N. Oshima, M. Hayakawa and M. Sugimoto**

**A. Viarengo, L. Canesi, M. Pertica, G. Poli, M. N. Moore and M. Orunesu**

**F. S. Messiha**

**C. Ardizzone, H. Krokos and C. Lippe**

**Ch. Brandes, M. Sugawa and R. Menzel**

**S. A. Small and A. P. Farrell**

**D. M. Sullivan and J. T. Turner**

**A. Fiedler and R. Schipp**

**S. Homma**

**D. H. Spaargaren**

**L. Vitanova, E. Popova, P. Kupenova, N. Kosteljanetz and S. Belcheva**

**Nget-Hong Tan and G. Ponnudurai**

**K. Temma, M. Iwata, H. Kondo and T. Ohta**

- 1 Models of regulation and accumulation of trace metals in marine invertebrates
- 9  $\text{Ca}^{2+}$ -mobilizing receptors of gastrulating chick embryo
- 13 Effects of some autonomic drugs and neuropeptides on the mechanical activity of longitudinal and circular muscle strips isolated from the carp intestinal bulb (*Cyprinus carpio*)
- 25 Presence of four tachykinins in an acid extract of the carp intestinal bulb (*Cyprinus carpio*)
- 33 The involvement of calmodulin in motile activities of fish chromatophores
- 37 Heavy metal effects on lipid peroxidation in the tissues of *Mytilus galloprovincialis* Lam.
- 43 Differential modulation of mouse brain biogenic amines by haloperidol and pimozide: implications in Tourette's syndrome
- 49 Actions of carbaryl on the ionic transport across the isolated skin of *Rana esculenta*
- 53 High-performance liquid chromatography (HPLC) measurement of catecholamines in single honeybee brains reveals caste-specific differences between worker bees and queens in *Apis mellifera*
- 59 Vascular reactivity of the coronary artery in steelhead trout (*Oncorhynchus mykiss*)
- 65 Characterization of the muscarinic cholinergic receptor in the opossum (*Didelphis virginiana*, Kerr) submandibular gland: differences in receptor density and subtype compared with higher mammalian species
- 71 The effects of biogenic monoamines and related agonists and antagonists on the isolated, perfused branchial heart of *Sepia officinalis* L. (Cephalopoda)
- 79 Local sensitivity to excitatory and inhibitory amino acids in spinal interneurons of the lamprey
- 87 The effect of environmental ammonia concentrations on the ion-exchange of shore crabs, *Carcinus maenas* (L.)
- 93 Comparative studies on the effects of some enkephalin agonists on the ERG of frog and turtle
- 99 A comparative study of the biological properties of Australian elapid venoms
- 107 Seasonal variations in the content of catecholamines in carp heart (*Cyprinus carpio*)

**K. Pynnönen**

**M. H. Donker, P. Koevoets,  
J. A. C. Verkleij and N. M. Van Straalen**

**H. M. Carpenter, L. S. Fredrickson,  
D. E. Williams, D. R. Buhler and  
L. R. Curtis**

**K. A. Akanbi, D. C. England and  
C. Y. Hu**

**F. W. Edens and J. W. Laskey**

**M. L. Schwanke, J. S. Cobb and  
G. Kass-Simon**

**J. T. Borlakoglu, J. P. G. Wilkins,  
C. H. Walker and R. R. Dils**

**J. T. Borlakoglu, J. P. G. Wilkins,  
C. H. Walker and R. R. Dils**

**J. T. Borlakoglu, J. P. G. Wilkins,  
C. H. Walker and R. R. Dils**

**K. Al-Sabti and J. Hardig**

**A. Chiba, M. Hamaguchi, T. Tokuno,  
T. Asai and S. Chichibu**

**C. Watala and J. K. Kowalczyk**

**L. Schoofs, W. Schroven and A. De Loof**

**T. Naitoh, A. Miura, H. Akiyoshi and  
R. J. Wassersug**

**111** Aluminium accumulation and distribution in the freshwater clams (Unionidae)

**119** Metal binding compounds in hepatopancreas and haemolymph of *Porcellio scaber* (Isopoda) from contaminated and reference areas

**127** The effect of thermal acclimation on the activity of arylhydrocarbon hydroxylase in rainbow trout (*Oncorhynchus mykiss*)

**133** Effect of insulin and adrenergic agonists on glucose transport of porcine adipocytes

**139** Serum chemistries of *Coturnix coturnix japonica* given dietary manganese oxide ( $Mn_3O_4$ )

**143** Synaptic plasticity and humoral modulation of neuromuscular transmission in the lobster claw opener during the molt cycle

**151** Polychlorinated biphenyls (PCBs) in fish-eating sea birds—I. Molecular features of PCB isomers and congeners in adipose tissue of male and female razorbills (*Alca torda*) of British and Irish coastal waters

**161** Polychlorinated biphenyls (PCBs) in fish-eating sea birds—II. Molecular features of PCB isomers and congeners in adipose tissue of male and female puffins (*Fratercula arctica*), guillemots (*Uria aalga*), shags (*Phalacrocorax aristotelis*) and cormorants (*Phalacrocorax carbo*) of British and Irish coastal waters

**173** Polychlorinated biphenyls (PCBs) in fish-eating sea birds—III. Molecular features and metabolic interpretations of PCB isomers and congeners in adipose tissues

**179** Micronucleus test in fish for monitoring the genotoxic effects of industrial waste products in the Baltic sea, Sweden

**183** Changes in high-energy phosphate metabolites in loaches (*Cobitis biwae*) during 2-phenoxyethanol anesthesia

**187** Hemolytic potency and phospholipase activity of some bee and wasp venoms

**195** The occurrence of myotropic factors in the intestine and Malpighian tubules of *Locusta migratoria*

**201** Movements of the large intestine in the anuran larvae, *Xenopus laevis*

**Vol. 97C, No. 2**

**M. Samel and J. Siigur**

**C. G. Norey, A. Cryer and J. Kay**

**C. G. Norey, A. Cryer and J. Kay**

**209** Isolation and characterization of hemorrhagic metalloproteinase from *Vipera berus berus* (common viper) venom

**215** Induction of metallothionein gene expression by cadmium and the retention of the toxic metal in the tissues of rainbow trout (*Salmo gairdneri*)

**221** A comparison of cadmium-induced metallothionein gene expression and  $Me^{2+}$  distribution in the tissues of cadmium-sensitive (rainbow trout; *Salmo gairdneri*) and tolerant (stone loach; *Noemacheilus barbatulus*) species of freshwater fish

**H. Washio and T. Koga**

**D. J. Faulkner, T. F. Molinski, R. J. Andersen, E. J. Dumdei and E. Dilip de Silva**

**P. H. Rudolph and E. Spaziani**

**B. H. Ridzwan, N. G. Waton, B. O. M. Rozali, A. M. Mat Jais and A. H. Maimun**

**B. H. Ridzwan and N. G. Waton**

**T. Gómez, A. Bolaños, J. A. López-García, M. C. Nicolau and R. V. Rial**

**P. N. Leigh, J. H. Connick and T. W. Stone**

**C. Arce, S. Cañadas, M. J. Oset-Gasque, E. Castro and M. P. González**

**T. Nasu, H. Narimatu and H. Shibata**

**Zhi-Yong Huang and C. O. Knowles**

**A. M. Evans and K. L. Green**

**T. S. Gill, H. Tewari and J. Pande**

**Nget-Hong Tan and M. Nomanbhay Saifuddin**

**N. Favero, P. Costa and G. Paolo Rocco**

**P. Davalli, E. Carpenè, G. P. Serrazanetti, S. Bettuzzi, R. Viviani and A. Corti**

**J. Aikawa and N. Akatsuka**

**H. Karst, R. H. Fokkens, N. de Haan, G. Heuver, B. Hue, C. Kruk, N. M. M. Nibbering, T. Piek, W. Spanjer, Y. C. Tong and W. van der Vliet**

**K. Michelsen and M. A. Sheridan**

**D. M. McKay, C. Shaw, D. W. Halton, C. F. Johnston, I. Fairweather and K. D. Buchanan**

227 Proctolin and octopamine actions on the contractile systems of insect leg muscles

233 Geographical variation in defensive chemicals from Pacific coast dorid nudibranchs and some related marine molluscs

241 Distribution of serotonergic neurons in the eyestalk and brain of the crab, *Cancer antennarius*

247 *In vitro* estimation of non-specific and specific amino acid decarboxylase activities in guinea-pigs treated with chlorpromazine

251 Radioactive uptake of [<sup>14</sup>C]histamine by certain tissues in guinea-pigs treated and untreated with chlorpromazine

257 A case report of spontaneous electrographic epilepsy in reptiles (*Gallotia galloti*)

259 Distribution of NADPH-diaphorase positive cells in the rat brain

265 Glutamate dehydrogenase: some properties of the rat brain enzyme from different cellular compartments

269 Iodoacetic acid-induced rigor in ileal longitudinal smooth muscle of guinea-pig

275 Nicotinic and muscarinic cholinergic receptors in honey bee (*Apis mellifera*) brain

283 The action of dopamine receptor antagonists on the secretory response of the cockroach salivary gland *in vitro*

287 Use of the fish enzyme system in monitoring water quality: effects of mercury on tissue enzymes

293 Comparative study of the edema-inducing activity of snake venoms

297 Role of copper in cadmium metabolism in the Basidiomycetes *Pleurotus ostreatus*

305 Responses of polyamine metabolism to metal treatment (Co, Cu, Zn, Cd) in the liver of the goldfish (*Carassius auratus*): distinct effect of season and temperature

311 Vascular smooth muscle relaxation by endothelium-dependent  $\beta_1$ -adrenergic action

317  $\beta$ -Philanthotoxin, a novel glutamatergic antagonist for insect neuromuscular transmission

329 Influence of cAMP and calcium on epinephrine-mediated hepatic glycogenolysis in rainbow trout, *Oncorhynchus mykiss*

333 Tachykinin immunoreactivity in the European common frog, *Rana temporaria*: localization, quantification and chromatographic characterization

**Y. Ninomiya, H. Kawamura, T. Nomura, H. Uebayashi, K. Sabashi and M. Funakoshi**

**B. Fauconneau, P. Aguirre and J. M. Blanc**

**Nin-Nin Chuang and Bei-Chia Yang**

**Y. T. Behnam and N. Maclean**

**G. E. Knight, C. H. V. Hoyle and G. Burnstock**

**R. M. Palmer, P. A. Bain and B. G. Southorn**

**A. M. Mat Jais, R. Sharma, S. Pedder, I. Kubota, Y. Muneoka and R. J. Walker**

**F. Bucher and R. Hofer**

**H. M. Schoenemann, M. L. Failla and R. W. Rosebrough**

341 Analgesic effects of D-amino acids in four inbred strains of mice

345 Protein synthesis in different tissues of mature rainbow trout (*Salmo gairdneri* R.). Influence of triploidy

353 A sialidase from the hepatopancreas of the shrimp *Penaeus japonicus* (Crustacea: Decapoda): reversible binding with the acidic beta-galactosidase

357 Effects of 5-azacytidine and 5-aza-2-deoxycytidine on alpha-fetoprotein levels in mice

363 Glibenclamide antagonises the responses to ATP, but not adenosine or adrenaline, in the gastric ligament of the starfish *Asterias rubens*

369 Dexamethasone-induced catabolism and insulin resistance in L6 myoblasts are reversed by the removal of serum

373 The actions of the catch relaxing peptide, CARP, on identified *Helix* central neurons

381 Effects of domestic wastewater on serum enzyme activities of brown trout (*Salmo trutta*)

387 Cardiac and splenic levels of norepinephrine and dopamine in copper deficient pigs and rats

393 Errata

